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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/616,301	07/10/2003	Yoav Kimchy	25854	1622

7590 07/12/2007

Martin D. Moynihan
PRTSI, Inc.
P.O. Box 16446
Arlington, VA 22215

EXAMINER	
CHAO, ELMER M	
ART UNIT	PAPER NUMBER
3737	

MAIL DATE	DELIVERY MODE
07/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/616,301	KIMCHY ET AL.	
	Examiner	Art Unit	
	Elmer Chao	3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 March 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4 and 6-8* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4 and 6-8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Acknowledgement is made of the amendment filed 3/15/2007.

Response to Arguments

2. Applicant's arguments filed 3/15/2007 have been fully considered but they are not persuasive.

3. Regarding Applicants' arguments on page 5 of the arguments filed 3/15/2007 with respect to claim 1, Applicants argue that it would not have been obvious for Barrett to teach using a plurality of nuclear radiation detectors. Even though Barrett's invention uses a cable, the fact remains that adding a plurality of detectors around the capsule would help in increasing the area imaged. Since tumbling is random, the difference between Hassan's pill form versus Barrett's cable endoscope is minor given that both would benefit by having more detectors to increase the area imaged. Even though the method of processing information from the plurality of detectors would be different from Barrett's invention, one of ordinary skill in the art would still be able to modify Hassan's pill to include a plurality of detectors and benefit from more imaging area similar to Barrett's invention. Furthermore, to address Applicant's argument of Hassan teaching away from adding a plurality of detectors, Examiner asserts that adding a plurality of detectors does not reduce total measurement. On the contrary, more detectors create more imaging data, thereby increasing total measurement.

4. Regarding Applicants' arguments on page 6 of the arguments filed 3/15/2007 with respect to claim 1, Applicants further recite the differences between Barrett's and

Hassan's inventions. Examiner once again asserts that the plurality of detectors in Barrett's case serve the function of increasing the area imaged. Just because Barrett also uses a cable and techniques for processing the imaged data does not mean one of ordinary skill in the art would add those techniques and cables to Hassan's inventions in order to add the plurality of detectors. The purpose of teaching the plurality of detectors into Hassan's invention is to image a wider area at once, a benefit that can serve both wired and wireless endoscopes.

5. Regarding Applicants' arguments with respect to claim 5, Applicants argue that Glukhovsky's invention involves electrodes and not radiation probes. However, Examiner wants to make it clear that a radiation probe is already taught by Hassan, the plurality is taught by Barrett, and finally the protrusion of the probes are taught by Glukhovsky. Even though Glukhovsky presents electrode probes, they are in fact probes and the teaching provides one of ordinary skill in the art the ability to understand the advantage of protruding probes out of the shell in order to not have the shell attenuate any measurement signals.

6. Regarding Applicants' arguments with respect to claim 8, Applicants argue that Zhang does not provide motivation to combine the technique of Zhang with an ingestible device that is encapsulated with a shell. Examiner points out that Zhang does provide motivation for a probe with Compton camera techniques. The motivation is to provide sensitivity and high resolution (Zhang, No. 68, second sentence) as already stated in page 5 of the Office Action dated 12/15/2006. Both Zhang's and Hassan's inventions are based on probes that provide imaging within the body. Zhang's motivation for a a

Compton camera probe to would therefore be applicable enough for one of ordinary skill in the art to see obviousness in combining Zhang's Compton camera technique to Hassan's ingestible device.

Claim Objections

7. **Claim 1** is objected to because of the following informalities: Claim 1 recites "a shell which encapsulates said probe...wherein said probe comprises a plurality of nuclear-radiation detectors arranged around said shell." If the probe is encapsulated, then the probe cannot have detectors around the shell that encapsulates it. Examiner suggests the wording be changed to remove the term "...encapsulate..." for clarity. Appropriate correction is required.

8. **Claim 6** is objected to because of the following informalities: Claim 6 recites "substantially to a substantially to a photon energy". Appropriate correction is required.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. **Claims 1-4, 6, and 7** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hassan in view of Barrett et al (U.S. 4,595,014), and in further view of Glukhovsky (U.S. 6,584,348). Hassan teaches "A Radiotelemetry Pill for the Measurement of

Ionising Radiation using a Mercuric Iodide Detector" (title). Regarding claim 1, Hassan teaches that "the radiation pill consists of a mercuric iodide crystal, amplifier, transmitter, and a 1.35V battery" (last paragraph, pg. 303). Hassan teaches of "the pill's plastic encapsulation" (last paragraph, pg. 306). Regarding claim 2, Hassan teaches that the "radiopill can also serve as a general purpose telemetric γ-ray detector" (last paragraph, pg. 302). Hassan teaches that "The radiopill was also tested as a beta detector" (first paragraph, pg. 307).

Hassan substantially discloses all the limitations as discussed above. Hassan does not disclose an ingestible device with a plurality of nuclear-radiation detectors arranged on the external surface of the ingestible device. However, Barrett ('014) teaches a nuclear radiation probe that includes multiple radiation detectors (C3, L51-53). It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Hassan to create an ingestible device with a plurality of nuclear-radiation detectors. Such a modification would help increase the area imaged are by not requiring the device to rotate fully in order to image the surrounding area (C3, L62-67). Glukhovsky ('348) teaches a capsule with electrode probes protruding out from openings of the capsule (Figure 2A). It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Hassan in view of Barrett ('014) to include a plurality of nuclear radiation detectors arranged around the external surface of the ingestible device. Such a modification would improve the sensitivity of the probes by not enclosing them by an encapsulation that could potentially attenuate the detectable radiation.

Regarding **claims 3 and 4**, Hassan teaches that "the sensitivity of the pill has been found for $^{99}Tc^{m}$, ^{131}I and ^{32}P" (abstract).

Regarding **claim 7**, Hassan does not teach the radiotelemetry pill with a collimator, nor does it even hint at the mercuric iodide crystal being collimated.

11. **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over Hassan in view of Barrett et al., further in view of Glukhovsky, further in view of Zhang et al. (Society of Nuclear Medicine, June 2000). Hassan, Barrett et al., and Glukhovsky substantially disclose all the limitations as discussed above. They do not disclose an ingestible device arranged as a Compton camera. However, Zhang teaches a transrectal imaging probe based on Compton camera techniques (No. 68, second sentence). It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Hassan to include a Compton camera probe as evidenced by Zhang. Such a modification would allow the ingestible device to have high sensitivity and high resolution (No. 68, second sentence).

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elmer Chao whose telephone number is (571)272-0674. The examiner can normally be reached on 9am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on (571)272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EC
7/7/2007

BRIAN L. CASLER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700